RIVERS AND FLOODS

By MONTROSE W. HAYES

[In charge River and Flood Division]

Rains in the latter half of November caused moderate floods in the Illinois, the Des Moines, the Missouri River below Kansas City, the Osage, the Neosho, and Verdigris in Kansas, and the Long Tom, a tributary of the Willamette, in Oregon. There was also an overflow in the Delaware, a small stream tributary to the Kansas River.

In the Grand River of Missouri there was a moderately high flood, which caused a severe loss to unhoused crops.

The following is a statement of flood losses:

Tangible property totally or partially destroyed (buildings, fences, highways, bridges, railroads, etc.):	
Grand River	$56,000
Osage River	7,500
Verdigris River	500
Neosho River	500
Total	64,500
Matured crops:	
Illinois River	10,000
Grand River (in Missouri)	636,000
Osage River	5,600
Missouri River below Kansas City	14,000
Neosho River	1,000
Total	666,600
Prospective crops: Neosho River	500
Livestock and other movable property:	
Osage River	1,000
Neosho River	300
Total	1,300
Suspension of business, including wages of employees:	
Osage River	2,000
Neosho River	500
Total	2,500

A complete report on the extent of the Des Moines River flood has not been received. It will appear in the December issue of the REVIEW.

The money value of property saved by warnings was estimated at $25,000 in the Grand Valley, $7,000 in the Osage Valley, and $5,000 in the lower Missouri Valley.

Table of flood stages in November, 1931

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
	Feet			*Feet*	
Raccoon: Van Meter, Iowa	13	24	24	14.2	24
Des Moines: Ottumwa, Iowa	10	24	29	12.2	26–27
Illinois:					
Morris, Ill	13	23	23	13.3	23
Peru, Ill	14	22	(1)	17.5	24
Henry, Ill	10	26	30	10.1	27–28
Havana, Ill	14	29	(1)	14.0	29–30
Missouri Basin					
Thompson Fork: Trenton, Mo	20	24	24	20.4	24
Grand:					
Gallatin, Mo	20	14	19	29.3	16
		23	27	32.6	26
Chillicothe, Mo	18	15	21	28.3	17
		23	28	29.8	25
Brunswick, Mo	12	18	(1)	18.9	27
Osage:					
Quenemo, Kans	30	24	25	34.6	24
Ottawa, Kans	24	24	26	27.2	25
La Cygne, Kans	23	25	28	24.1	28
Missouri:					
Boonville, Mo	21	28	29	21.4	28
St. Charles, Mo	25	29	30	26.1	30
Arkansas Basin					
Verdigris: Independence, Kans	30	24	26	36.2	25
Neosho:					
LeRoy, Kans	24	24	24	25.4	24
Iola, Kans	15	24	26	16.4	24
Chanute, Kans	20	24	27	23.0	26
Parsons, Kans	22	26	28	23.0	28
Oswego, Kans	17	25	29	19.7	28
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Long Tom: Monroe, Oreg	8	22	22	11.1	22

[1] Continued into December.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[By the Marine Division, W. F. MCDONALD in charge]

NORTH ATLANTIC OCEAN

By W. F. MCDONALD

The pressure situation.—The weather of November, 1931, on the North Atlantic Ocean was characterized by an unusually deep and persistent Icelandic LOW, with barometric averages near or somewhat above the November normal over most of the region south of latitude 40°. Highest pressures were central over the American coast northward to Halifax, where the barometer averaged 0.10 to 0.15 inch above normal. From Ireland to Iceland, the average pressure was nearly a half inch below normal, and on more than half the days in the month the minimum barometric readings on the northeastern Atlantic were below 29 inches. There was a slight deficiency in the mean pressure in the Caribbean area.

Table 1 gives details of average pressures, departures from normal, and maxima and minima for a number of coastal and island stations representative of the North Atlantic region.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, November, 1931*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland [1]	29.49		30.14	19th	28.90	27th.
Reykjavik, Iceland [1]	29.12	−0.50	29.71	30th	28.58	14th.
Lerwick, Shetland Isles [1]	29.60	−0.10	30.39	16th	28.49	10th.
Valentia, Ireland [1]	29.59	−0.45	30.34	30th	28.46	10th.
Lisbon, Portugal [1]	30.08	+0.04	30.26	28th	29.78	12th.
Madeira [1]	30.08	+0.07	30.24	27th	29.88	14th.
Horta, Azores [1]	30.14	+0.01	30.44	19th	29.94	13th.
Belle Isle, Newfoundland [1]	29.83	−0.05	30.64	20th	28.82	14th.
Halifax, Nova Scotia [1]	30.10	+0.15	30.56	20th	29.50	4th.
Nantucket [2]	30.17	+0.12	30.58	27th	29.66	30th.
Hatteras [2]	30.23	+0.12	30.52	26th	29.96	30th.
Bermuda [1]	30.15	+0.07	30.36	20th	29.90	10th.
Turks Island [1]	29.97	−0.02	30.08	27th	29.82	8th.
Key West [2]	30.04	+0.02	30.17	11th	29.90	30th.
New Orleans [2]	30.14	+0.04	30.38	2d	29.86	17th.
Cape Gracias, Nic. [1]	29.84	−0.06	29.94	27th	29.76	14th.

[1] All data based on a. m. observations only, with departure computed from best available normals related to time of observation.

[2] Corrected 24-hour means, based on more than one observation daily.